

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-087

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on <http://www.amsat.org> publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

- * E0-79 transponder ACTIVE
- * Digital Communications Conference Call for Papers
- * Call for Papers - CSVHFS 50th Anniversary Conference
- * AMSAT at Scottsdale AZ and Radio Society of Tucson Hamfests
- * Upcoming AMSAT Events
- * Proposal Window for Scheduled US Contacts is Still Open
- * SA AMSAT Gets New Name
- * 40 Students Learn About Amateur Radio and Satellites
- * ARISS News
- * Satellite Shorts From All Over

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ANS-087 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 087.01

>From AMSAT HQ KENSINGTON, MD.

March 27, 2016

To All RADIO AMATEURS

BID: \$ANS-087.01

E0-79 transponder ACTIVE

On the 25th of March 2016, the E0-79 transponder was activated for a prolonged period.

The FUNcube transponder subsystem on QB50p1 (E0-79) had been provided by AMSAT-UK and AMSAT-NL and is a similar subsystem as on FUNcube-1, but without the telemetry downlink circuitry.

The current software running on E0-79 does experience occasional reboots. When these reboots happen, the transponder is automatically turned off and will have to be turned back on by a command station. The FUNcube team has selected a few command stations to do so, but be advised the transponder may be off.

TLEs:

AMSAT keps name: E0-79

Celestrak keps Name: QB50P1
Celestrak file: cubesat.txt
NORAD # 40025
COSPAR designator 2014-033-R

Frequencies:
Uplink: 435.035-435.065 MHz LSB
Downlink: 145.935-145.965 MHz USB

E0-79 has been set to only beacon the normal AX.25 beacon every 30 seconds instead of 10 seconds. The beacon frequency is 145.815MHz and consists of AX.25 frames on BPSK. more details about the downlink can be found on the ISIS HAM page at <http://isispace.nl/HAM/qb50p.html>

Just like FUNcube-1, the crystal oscillator circuits exhibit drift with temperature. This means manual tuning will probably work best.

Lastly, the commanding team availability will be limited over Easter, so please report the transponder being on or off on the status page of AMSAT: <http://www.amsat.org/status/>

It does not appear in the table, but it does in the reporting drop-down.

[ANS thanks Wouter PA3WEG AMSAT-NL and AMSAT-UK for the above information]

Digital Communications Conference Call for Papers

Technical papers are solicited for presentation at the 35th Annual ARRL/TAPR<<http://www.tapr.org/>> Digital Communications Conference (DCC) <http://www.tapr.org/dcc.html>, to be held September 16-18 in St Petersburg, Florida. Papers will also be published in the Conference Proceedings. Authors do not need to attend the conference to have their papers included in the Proceedings. The submission deadline is July 31, 2016.

The ARRL/TAPR Digital Communications Conference is an international forum for technically minded radio amateurs to meet and present new ideas and techniques. Paper/presentation topic areas include -- but are not limited to -- software defined radio (SDR), digital voice, digital satellite communication, digital signal processing (DSP), HF digital modes, adapting IEEE 802.11 systems for Amateur Radio, Global Positioning System (GPS), Automatic Position Reporting System (APRS), Linux in Amateur Radio, AX.25 updates and Internet operability with Amateur Radio networks.

Submit papers to via e-mail<[mailto:maty\(a\)arrl.org](mailto:maty(a)arrl.org)> or via post to Maty Weinberg, KB1EIB, ARRL, 225 Main St, Newington, CT 06111. Papers will be published exactly as submitted, and authors will retain all rights.

[ANS thanks Steve WBIMY for the above information]

Call for Papers - CSVHFS 50th Anniversary Conference

The Central States VHF Society is soliciting papers, presentations, and Poster displays for the 50th Annual CSVHFS Conference to be held in Rochester, Minnesota on 28 - 31 July, 2016. Papers, presentations, and Posters on all aspects of weak-signal VHF and above amateur radio are requested. You do not need to attend the conference, nor present your paper, to have it published in the Proceedings. Posters will be displayed during the two days of the Conference.

Topics of interest include (but are not limited to):

- * Antennas, including Modeling/Design, Arrays, and Control
- * Construction of equipment, such as Transmitters, Receivers, and Transverters
- * RF amplifiers (power amps), including Single-band and Multiband Vacuum Tube and solidstate
- * Pre-amplifiers (low noise)
- * Propagation, including Ducting, Sporadic E, and Meteor Scatter, etc.
- * Test Equipment, including Homebrew, Using, and making measurements
- * Regulatory topics
- * Operating, including Contesting, Roving, and DXpeditions
- * EME
- * Digital Signal Processing (DSP)
- * Software-defined Radio (SDR)
- * Digital Modes, such as WSJT, JT65, etc.

Generally, topics not related to weak signal VHF, such as FM Repeaters and packet radio, are not accepted for presentation or publication. However, there are always exceptions.

Please contact either the Technical Program Chairman, or the Proceedings Chairman, at the the e-mail addresses below.

DEADLINES FOR SUBMISSIONS:

For the Proceedings: SUNDAY, 22 MAY 2016

For Presentations to be delivered at the conference: TUESDAY, 5 JULY 2016
For Posters to be displayed at the conference: THURSDAY, 29 JULY 2016.

Further information is available at the CSVHFS web site (www.csvhfs.org),

"The 2016 Conference,"

"Guidance for Proceedings Authors,"

"Guidance for Presenters,"

"Guidance for Table-top/Poster Displays."

CONTACTS:

(Note: (replace '(at)' with the @-sign to use the e-mail addresses)

Technical Program Chairman: Barry Malowanchuk, [ve4ma \(at\) shaw.ca](mailto:ve4ma@shaw.ca)

Proceedings Chairman: Glen Overby, [kc0iyt \(at\) arrl.net](mailto:kc0iyt@arrl.net)

[ANS thanks Donn Baker, WA2VOI for the above information]

AMSAT at Scottsdale AZ and Radio Society of Tucson Hamfests

Patrick STODDARD (WD9EWK/VA7EWK) staffed a table at the Scottsdale Amateur Radio Club's "Springfest" hamfest, held in a church parking lot Saturday, 19 March). This hamfest is one of the 3 major hamfests for the Phoenix area in the non-summer season, and the good weather

helped to bring the crowds out. Lots of buyers and sellers, and lots of interest in AMSAT and amateur satellites.

With the launches of AO-85 and the 9 Chinese amateur satellites in the past 6 months, many hams are taking a closer look at this part of the hobby. For some, the recent launches and projects currently in the pipeline are bringing some back to the satellites. Along with talking about satellites, many copies of AMSAT's "Getting Started with Amateur Satellites" flew off my AMSAT table. Demonstrations 6am (1300 UTC) and 11am (1800 UTC), had nice crowds.

Patrick reports "It was nice to have AO-85 available during the morning, as SO-50 was not passing by during the morning. I also had 4 other satellites that were used for demonstrations - AO-73, XW-2A, XW-2C, and XW-2F. The three XW-2 satellites were passing by in the first couple of hours, and AO-73 and AO-85 came by later in the morning. For all of these passes, I used my SDRplay SDR receiver for the downlinks, connected to an 8-inch Windows10 tablet and HSDR software running on the tablet.

As I have seen at other recent events, using an SDR receiver makes for more conversations - and not just in the context of working satellites. With all of these satellites employing a 70cm uplink and 2m downlink, I didn't have to worry so much about the sunlight making the tablet's LCD panel unreadable. Once I set my downlink frequency on the tablet, and for AO-85 activate AFC in HSDR to track the downlink, I only had to worry about using the wheel on a Bluetooth mouse for fine-tuning. Despite some QRM in the area of the hamfest site, northeast of a nearby airport, the SDRplay did a decent job hearing all of these downlinks. For AO-73 and AO-85, I was able to play back the RF recordings I made with HSDR later at home, so I could upload telemetry to each satellite's telemetry server from those passes. By the way, HSDR's recordings do a much better job picking up AO-73 telemetry than I ever saw when I used the FUNcube Dashboard to directly receive the telemetry and then upload the data to the FUNcube data warehouse server. Same thing for copying AO-85 telemetry - HSDR's RF recordings do better for capturing the data than I saw when using the FoxTelem software to directly control my FUNcube Dongle Pro+."

For those who worked WD9EWK during those demonstrations, Patrick thanks you! The demonstrations make a positive impression on this part of the hobby for the crowds. His mockup of the AO-85 satellite - a 4-inch cube of wood, with two whips representing the antennas coming out of two sides, also helped to reinforce that small satellites can do more than "beep" in orbit. AO-73 and AO-85, in particular, are great examples of what we can do with small satellites. Patrick's contacts from these demonstrations were uploaded to his log to Logbook of the World. He will be happy to send QSL cards to anyone who would like one for QSOs during the hamfest (just e-mail Patrick with the QSO details - no need to send him a card or self-addressed stamped envelope).

Patrick will have an AMSAT table at the Radio Society of Tucson's annual hamfest on Saturday morning, 26 March 2016. The hamfest will be at the Target store on Old Spanish Trail, near the intersection of 22nd Street and Harrison, in Tucson AZ. The hamfest is scheduled to run from 6am to 11am (1300 to 1800 UTC). More information about the hamfest is available at the club's web site at:
<http://www.k7rst.org/>

Afterwards he plans on making a long drive east to a point along I-10 on the DM52xf/DM62af grid boundary, west of Deming in New Mexico. He hopes to work a few passes from there in the mid- to late-

afternoon, and possibly into the evening. If he is not at the grid boundary in time for F0-29 and/or A0-7 passes, he may stop to work those passes wherever he might be - likely somewhere in grid DM52, in either Arizona or New Mexico. He definitely plans on being at this grid boundary in time for S0-50 passes starting just after 2200 UTC Saturday afternoon. Weather and law enforcement permitting (this area is near the USA/Mexico border), He may try to stick around into the early evening before making the 300-mile/500km drive home from that area.

While on the road, his location should be visible via APRS. There is good APRS coverage in southeastern Arizona and southwestern New Mexico. He will use WD9EWK-9 as his call sign for APRS, which should show up online at (among other sites):
<http://aprs.fi/WD9EWK-9>

He will use my @WD9EWK Twitter feed to post updates during the afternoon and early. For those who don't use Twitter he can be followed using a web browser:
<http://twitter.com/WD9EWK>

Contacts will be uploaded to his log to Logbook of the World, and will ensure QSOs from the grid boundary carry both grids. If you would like a QSL card for a QSO with WD9EWK, please e-mail Patrick directly with the QSO details. If you're in the log, he will be happy to mail you a card without you having to send him a QSL card or SASE.

[ANS thanks Patrick WD9EWK/VA7EWK for the above information]

Upcoming AMSAT Events

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations, forums, and/or demonstrations).

- + Saturday, 26 March 2016 – Tucson Spring Hamfest in Tucson AZ
- + Friday through Sunday, 29 April-1 May 2016, ARRL Nevada State Convention in Las Vegas NV
- + Saturday, 7 May 2016 – Cochise Amateur Radio Association Hamfest in Sierra Vista AZ
- + Saturday, 14 May 2016 – Matanuska Amateur Radio Association Hamfest in Wasilla AK
- + Friday through Sunday, 20, 21, 22 May 2016 - AMSAT at Dayton Hamvention. There will be the usual activities including a booth in the Ball Arena, demonstrations from an area outside the Ball Arena, and a forum on Saturday (21 May). We will also have a number of both formal and informal social activities including the popular get-together at Tickets Thursday evening, and the TAPR/AMSAT banquet Friday night at the Kohler Presidential Banquet Center.

+ Saturday, 4 June 2016 – White Mountain Hamfest in Show Low AZ

[ANS thanks AMSAT-NA for the above information]

Proposal Window for Scheduled US Contacts is Still Open

Message to US Educators
Amateur Radio on the International Space Station
Contact Opportunity

Call for Proposals
Proposal Window February 15 – April 15, 2016

The Amateur Radio on the International Space Station (ARISS) Program is seeking formal and informal education institutions and organizations, individually or working together, to host an Amateur Radio contact with a crew member on board the ISS. ARISS anticipates that the contact would be held between January 1, 2017 and June 30, 2017. Crew scheduling and ISS orbits will determine the exact contact dates. To maximize these radio contact opportunities, ARISS is looking for organizations that will draw large numbers of participants and integrate the contact into a well-developed education plan.

The deadline to submit a proposal is April 15, 2016. Proposal information and documents can be found at www.arrl.org/hosting-an-ariss-contact.

The Opportunity
Crew members aboard the International Space Station will participate in scheduled Amateur Radio contacts. These radio contacts are approximately 10 minutes in length and allow students and educators to interact with the astronauts through a question-and-answer session.

An ARISS contact is a voice-only communication opportunity via Amateur Radio between astronauts and cosmonauts aboard the space station and classrooms and communities. ARISS contacts afford education audiences the opportunity to learn firsthand from astronauts what it is like to live and work in space and to learn about space research conducted on the ISS. Students also will have an opportunity to learn about satellite communication, wireless technology, and radio science. Because of the nature of human spaceflight and the complexity of scheduling activities aboard the ISS, organizations must demonstrate flexibility to accommodate changes in contact dates and times.

Amateur Radio organizations around the world, NASA, and space agencies in Russia, Canada, Japan and Europe sponsor this educational opportunity by providing the equipment and operational support to enable direct communication between crew on the ISS and students around the world via Amateur Radio. In the US, the program is managed by AMSAT (Radio Amateur Satellite Corporation) and ARRL (American Radio Relay League) in partnership with NASA.

More Information
Interested parties can find more information about the program at www.ariss.org and www.arrl.org/ARISS.

For proposal information and more details such as expectations,

proposal guidelines and proposal form, and dates and times of Information Sessions go to <http://www.arrl.org/hosting-an-ariss-contact>.

Please direct any questions to [ariss\(a\)arrl.org](mailto:ariss(a)arrl.org).

[ANS thanks ARISS for the above information]

SA AMSAT Gets New Name

SA AMSAT has changed the SA in its name around and will now be known as AMSAT SA. The amateur radio satellite group made the decision to line up its name with the organisation's web address. It was confusing having the name and web address different. It now also follows the international trend of other AMSAT organisations. AMSAT SA has also been registered as a non-profit company and is in the process of applying for tax exemption status with SARS. Membership conditions of the organisation remain the same. To get more information visit the www.amsatsa.org.za or download a free copy of the March 2016 Ezine available from Monday 28 March 2016

[ANS thanks the South African Radio League (SARL) News for Sunday 27 March 2016 for the above information]

40 Students Learn About Amateur Radio and Satellites

On Wednesday last week 40 learners from schools around Pretoria attended a morning workshop about amateur radio and satellites. The workshop was part of the Innovation Hub holiday programme during which grade 10 and 11 learners are exposed to various work and science situations. AMSAT SA was invited to talk about space related activities. The workshop was presented by Nico van Rensburg ZS6QL and Hans van de Groenendaal ZS6AKV. The workshop started with a talk about amateur radio illustrated by short video clips. During practical demonstrations the learners were shown how a transponder works, how satellites orbit around the world and how antennas are used to track satellites including using smartphone applications.

[ANS thanks the South African Radio League (SARL) News for Sunday 27 March 2016 for the above information]

ARISS News

+ A Successful contact was made between Booker T. Washington Senior High, Miami, Florida, USA and Astronaut Timothy Peake KG5BVI using Callsign NA1SS. The contact began 2016-03-14 15:48 UTC and lasted about nine and a half minutes. Contact was direct via W4SVI. ARISS Mentors were Steve W1HQL and Ryan W4NTR.

+ A Successful contact was made between Walter Jackson Elementary, Decatur, Alabama, USA and Astronaut Timothy Peake KG5BVI using Callsign NA1SS. The contact began 2016-03-18 13:53 UTC and lasted

about nine and a half minutes. Contact was direct via N8DEU.
ARISS Mentor was John K4SQC

Upcoming ARISS Contact Schedule

Hirano Junior High School, Kobe, Japan, direct via 8N370H
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Tim Kopra KE5UDN
Contact is a go for: Mon 2016-03-28 11:07:49 UTC 56 deg

National Soaring Museum, Elmira, New York, telebridge via IK1SLD
The ISS callsign is presently scheduled to be OR4ISS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Fri 2016-04-01 18:34:03 UTC

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

[ANS thanks ARISS, Charlie AJ9N information]

Satellite Shorts From All Over

International Space Station Panoramic Tour

This 360° panorama allows you to explore the International Space Station's third module, Zvezda. Launched on 12 July 2000, the Russian module supplies life support for the Station and crewquarters. All five of Europe's Automated Transfer Vehicles docked with the module. The images to create this view were taken by ESA astronaut Samantha Cristoforetti during her Futura mission in 2015; the cosmonaut in the picture is Gennady Padalka.

<http://tinyurl.com/ANS087-Zvezda>

[ANS thanks the European Space Agency for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org

